

# Mars Exploration Science Monthly Newsletter

A publication of the Mars Program Office and the Mars Exploration Program Analysis Group (MEPAG)

July 2015

## Mars Science News

### ***Second Landing Site Workshop for the Mars 2020 Rover, 2nd announcement***

August 4-6, 2015

DoubleTree, Monrovia, CA

The Second Landing Site Workshop for the 2020 Mars Rover mission will be held at the Doubletree Hotel, Arcadia, CA, on August 4-6, 2015. The full text of the Second Announcement, workshop logistics, information about the hotel block, and a request for registration have been posted at: <http://marsnext.jpl.nasa.gov/>.

All members of the scientific community are encouraged to participate in the Mars 2020 site selection process. The primary goal of the second workshop will be to evaluate the ~30 candidate landing sites that emerged from the first workshop as well as any new sites proposed. We are soliciting presentations on the science merits of candidate landing sites for the Mars 2020 mission. Presenters at the workshop must make a comprehensive, persuasive talk on why a site is the right one for the 2020 mission and payload, including how the science objectives of the mission can be accomplished and (where possible) an assessment of how the surface characteristics meet the engineering criteria so that each site can be comprehensively and fairly assessed. Presentations are also solicited on the surface characteristics of the landing sites and how well they conform to the engineering requirements.

### ***Final version of 2015 MEPAG Goals Document has been posted***

The "Mars Science Goals, Objectives, Investigations, and Priorities: 2015 Version" final document is now posted on the MEPAG website: <http://mepag.nasa.gov/reports.cfm?expand=science>. In this revision (an update to the 2012 revision, posted in 2014), we have revised all four Goals' chapters: Life, Climate, Geology, Preparation for Human Exploration. Some of these chapters have changed extensively in both structure and content - a summary of changes is outlined in the Preamble. Additionally, this document explicitly identifies the cross-cutting aspects that are not captured within the Four-Goal, tiered structure, recording them within the supplemental high-level summary spreadsheet (also posted on the MEPAG website) and in the re-written final chapter (previously known as Section V). These efforts have increased the consistency and comprehensiveness of the individual Goal chapters, as well the integrated perspective offered by the full document.

### ***Call for Applications for Returned Sample Science Board for Mars 2020***

Individuals are invited to apply for membership on the Returned Sample Science (RSS) Board for the 2020 Mars science rover mission (hereafter Mars 2020). This strategic mission is intended to investigate an astrobiologically relevant ancient environment on Mars to decipher its geological processes and history, including the assessment of its past habitability and potential for preservation of biosignatures within accessible geologic materials. The rover also has an objective to collect a set of scientifically compelling samples for possible return to Earth by a potential future mission. Mission details are available at: <http://mars.nasa.gov/mars2020/mission/overview/>. Preparation of the most scientifically compelling samples for possible future analysis on Earth necessitates careful inputs and community engagement, and to this end, the Mars 2020 project will create a board drawn from the diverse array of disciplines likely to be involved in the study of returned samples.

To apply submit a 2-page (11-point font, 1-inch margins) Letter of Application and a CV by July 15, 2015 to [michael.a.meyer@nasa.gov](mailto:michael.a.meyer@nasa.gov) with the subject line "Mars 2020 Science Team RSS Board" after having read the instructions at [http://mepag.jpl.nasa.gov/announcements/2020DearColleague\\_RSS-F.pdf](http://mepag.jpl.nasa.gov/announcements/2020DearColleague_RSS-F.pdf)

## **Pre-Meteoritical Society meeting, The First Billion Years of Impact Records**

July 25-26, 2015 (*Meteoritical Society Annual Meeting: July 27-31*)

Sprout Rooms in International House, Berkeley, CA

This workshop will be aimed at a review and free-wheeling discussion of the current state of empirical evidence for the 4-decade old concept of “terminal cataclysm” or “late heavy bombardment” (LHB) as applied either to the Moon or the entire Solar System. We will approach the discussion primarily from the direction of the radiometric dating evidence, but with awareness of crater-count results and dynamical models. The workshop reflects our interest in the extent to which the radiometric dating and geological evidence is or is not consistent with a spike in impacts around 3.8-4.0 Ga, and the embedded but often vague concepts and terminology regarding the LHB that are often invoked in geological, dynamical, astrophysical, and even biological literature. There is a \$50 early registration fee for the workshop (until June 29). Depending on participation, a poster session may be arranged on Saturday evening. Contact: Audrey Bouvier ([audrey.bouvier@uwo.ca](mailto:audrey.bouvier@uwo.ca)).

Webpage: <http://metsoc2015.ssl.berkeley.edu/program/workshops/>

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## **Some Mars-relevant GSA sessions**

Abstract submission deadline: August 11, 2015

GSA meeting: November 1-4, 2015 in Baltimore, MD

Abstracts are due August 11. <http://www.geosociety.org/meetings/2015/sessions/topical.asp>.

### **T132: Mineralogy of Diagenesis on Earth and Mars: In Honor of Nicolas J. Tosca, 2015 MSA Awardee**

This session honoring Nick Tosca, winner of the 2015 MSA Award, will be devoted to recent experimental, theoretical, and observational advances in characterizing and interpreting the mineralogical relationships developed during aqueous diagenesis on both Earth and Mars.

### **T171. Exploring the Sedimentary Rock Record of Mars**

This forum will discuss advances in the study of Mars' ancient sedimentary rock record and will explore implications for surface processes and paleoenvironmental settings of Early Mars. Contributions relating to the study of sedimentary rocks on Mars through the analysis of rover, orbiter, and meteorite data are welcomed and encouraged.

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## **Announcement of the First Landing Site/Exploration Zone Workshop for Human Missions to the Surface of Mars**

October 27-30, 2015

Lunar Planetary Institute (LPI), Houston TX

The First Landing Site/Exploration Zone Workshop for Human Missions to the Surface of Mars will be held October 27 to 30, 2015, at the Lunar Planetary Institute (LPI) in Houston, TX. The purpose of this workshop is to identify and discuss candidate locations where humans could land, live and work on the martian surface. NASA hopes to engage scientists, technologists and experts in human exploration during the conference, fostering collaboration among the teams that will enable humans to explore Mars in the coming decades. Potential “Exploration Zones” will need to offer compelling science research while also providing resources that our astronauts can take advantage of during their pioneering of the Red Planet. First explorers will be limited to about 60 miles (100 km) of travel from their landing site due to life support and exploration technology requirements.

For More Information: <http://www.nasa.gov/sites/default/files/atoms/files/first-landing-site-announcement.pdf>

## **Travel Grant available for students with Mars-related interests, for 2nd International Planetary Caves Conference**

*Application due August 6, 2015 (abstract deadline)*

*Conference is October 20-23, 2015, in Flagstaff, AZ*

The NASA Mars Program Office has announced that travel funding will be made available for up to three (3) undergraduate and graduate students who are U.S. citizens or legal residents, with Mars-related interests, to attend this workshop. The student travel grants are competitive and will reimburse travel expenses; awardees will also have the registration fee waived. Applications are due August 6, 2015 (same as the abstract deadline). NASA Headquarters will make the selections and students will be notified by the start of September. See the [MEPAG Student Opportunities](#) page for more information and the application. Questions about this program should be directed to Dr. Serina Diniega ([Serina.Diniega@jpl.nasa.gov](mailto:Serina.Diniega@jpl.nasa.gov)).

## **A note about “conferences” and this calendar of events**

Many more events are now being classified as “conferences” (including –AG meetings), and thus necessitate forecasting by NASA/JPL employees and contractors whose funds flow through a NASA Center/JPL. In response to this, we will try to note (within the event calendar item) NCTS identifying numbers for events classified as conferences.

- “Conference” organizers: if we do not have it listed and you know this information, please forward the NCTS# (along with forecasting deadline, if known) to Meredith Cosby.
- Forecasters: when no deadline is noted, it is usually 90days in advance — sometimes further in advance if the conference is “Heavily Attended.” Also, please do not assume our noting of NCTS# is complete. If you are unsure if an event is a conference or not, or when the forecasting deadline may be, please consult with your NASA Center conference forecasting/travel unit.

## **Near-term Due Dates (next three months)**

<b>Due</b>	<b>Project</b>
July 9	<b>The Bridging the Gap III: Impact Cratering in Nature, Experiments and Modeling</b> Abstract deadline
July 10	<b>Venus Exploration Analysis Group (VEXAG) Meeting #13</b> Student travel grant deadline (step I deadline)
July 20	<b>2nd Landing Site Workshop for Mars 2020 Rover</b> Deadline to submit talk title to workshop organizers
July 31	<b>2nd Symposium of the Committee on Space Research (COSPAR 2015)</b> Early registration deadline
August 5	<b>AGU Fall Meeting</b> Abstract deadline
August 6	<b>2nd International Planetary Caves Conference</b> Abstract and Student Travel Grant Application deadline
August 11	<b>Geological Society of America Annual Meeting</b> Abstract deadline
August 25	<b>47th Meeting of the American Astronomical Society Division for Planetary Sciences (DPS 2015)</b> Abstract deadline
September 15	<b>Missions to Habitable Worlds</b> Registration deadline
September 28	<b>Geological Society of America Annual Meeting</b> Registration deadline

## Upcoming Conferences and Workshops

Third Quarter, 2015		
	July 19-23, 2015 Graz, AUSTRIA	<b>2nd International Congress on Stratigraphy</b> <a href="http://strati2015.uni-graz.at/">http://strati2015.uni-graz.at/</a> Session S 09: Planetary Stratigraphy
	July 20, 2015 Moffett Field, CA, USA	<b>6th Annual Lunar and Small Bodies Graduate Conference (LunarGradCon 2015)</b> <a href="http://impact.colorado.edu/lungradcon/2015/">http://impact.colorado.edu/lungradcon/2015/</a>
	July 21-23, 2015 Moffett Field, CA, USA	<b>2nd annual NASA Exploration Science Forum (ESF)</b> <a href="http://sservi.nasa.gov/NESF2015/">http://sservi.nasa.gov/NESF2015/</a>
	July 27-31, 2015 Berkeley, CA, USA	<b>Annual Meetings of the Meteoritical Society</b> <a href="http://metsoc2015.ssl.berkeley.edu/">http://metsoc2015.ssl.berkeley.edu/</a> , NCTS# 22207-15
	August 4-6, 2015 Pasadena, CA, USA	<b>2nd Landing Site Workshop for the Mars 2020 Rover</b> <a href="http://marsnext.jpl.nasa.gov/">http://marsnext.jpl.nasa.gov/</a> , NCTS# 22464-15
	August 10-12, 2015 Pasadena, CA, USA	<b>27th Annual Planetary Science Summer School</b> <a href="http://pscischool.jpl.nasa.gov">http://pscischool.jpl.nasa.gov</a>
	August 12-14, 2015 Flagstaff, AZ, USA	<b>6th Planetary Crater Consortium</b> <a href="http://www.planetarycraterconsortium.nau.edu/">www.planetarycraterconsortium.nau.edu/</a> , NCTS# 21792-15
	August 16-21, 2015 Prague, CZ	<b>Goldschmidt 2015</b> <a href="http://goldschmidt.info/2015/">http://goldschmidt.info/2015/</a>
	August 27, 2015 Pasadena, CA	<b>Mars 2001 Odyssey PSG</b>
	September 8-11, 2015 Moffett Field, CA, USA	<b>Comparative Climates of Terrestrial Planets II</b> <a href="http://cctp2.arc.nasa.gov/">http://cctp2.arc.nasa.gov/</a> , NCTS# 22053-15
	September 16-17, 2015 Irvine, CA, USA	<b>NRC's Committee on Astrobiology and Planetary Science (CAPS)</b>
	September 21-26, 2015 Freiberg, GERMANY	<b>The Bridging the Gap III: Impact Cratering in Nature, Experiments and Modeling</b> <a href="http://www.hou.usra.edu/meetings/gap2015/">http://www.hou.usra.edu/meetings/gap2015/</a>
	September 27-October 2, 2015 Nantes, FRANCE	<b>European Planetary Science Congress</b> <a href="http://www.epsc2015.eu/home.html">http://www.epsc2015.eu/home.html</a> , NCTS# 21623-15

## Fourth Quarter, 2015

	October 6-9, 2015 Noordwijk, NETHERLANDS	<b>European Astrobiology Network Association (EANA15)</b> <a href="http://www.eana-net.eu/Conferences/EANA2015.html">http://www.eana-net.eu/Conferences/EANA2015.html</a>
	October 20-22, 2015 Columbia, MD	<b>2015 Meeting of Lunar Exploration Analysis Group</b> <a href="http://www.hou.usra.edu/meetings/leag2015/">http://www.hou.usra.edu/meetings/leag2015/</a> , NCTS# 23063-16
	October 20-23, 2015 Flagstaff, AZ, USA	<b>2nd International Planetary Caves Conference</b> <a href="http://www.hou.usra.edu/meetings/2ndcaves2015/">http://www.hou.usra.edu/meetings/2ndcaves2015/</a>
<b>New!</b>	October 20-22, 2015 Noordwijk, NETHERLANDS	<b>Third ExoMars 2018 Landing Site Selection Workshop</b> <a href="http://exploration.esa.int">http://exploration.esa.int</a> (meeting website is coming)

## Fourth Quarter, 2015

	October 27-29, 2015 Washington DC, USA	<b>13th Meeting of the Venus Exploration Analysis Group</b> <a href="http://www.lpi.usra.edu/vexag/meetings/upcoming/">http://www.lpi.usra.edu/vexag/meetings/upcoming/</a> , NCTS code #22676-16 Limited student travel support may be available for U.S. citizen or legal resident students. Two step-process with first deadline on July 10. For full details, see <a href="http://www.lpi.usra.edu/planetary_news/2015/06/28/student-travel-grants-for-vexag-meeting-13-october-27%2C%2AD29-2015-washington/">http://www.lpi.usra.edu/planetary_news/2015/06/28/student-travel-grants-for-vexag-meeting-13-october-27%2C%2AD29-2015-washington/</a>
	October 28-29, 2015 Budapest, HUNGARY	<b>Missions to Habitable Worlds</b> <a href="http://life-origins2015.csfk.mta.hu/">http://life-origins2015.csfk.mta.hu/</a>
	November 1-4, 2015 Baltimore, MD, USA	<b>Geological Society of America Annual Meeting</b> <a href="http://community.geosociety.org/gsa2015/home">http://community.geosociety.org/gsa2015/home</a> , NCTS# 22522-16
	November 8-13, 2015 National Harbor, MD, USA	<b>47th Meeting of the American Astronomical Society Division for Planetary Sciences (DPS 2015)</b> <a href="http://aas.org/meetings/dps47">http://aas.org/meetings/dps47</a> , NCTS# 22069-16
	November 9-13, 2015 Foz do Iguacu, BRAZIL	<b>2nd Symposium of the Committee on Space Research (COSPAR 2015): Water and Life in the Universe</b>
<b>New!</b>	December 9-10, 2015 Noordwijk, NETHERLANDS	<b>Mars Express Science Working Team Meeting</b>
	December 14-18, 2015 San Francisco, CA, USA	<b>AGU Fall Meeting</b> <a href="http://fallmeeting.agu.org/2015/">http://fallmeeting.agu.org/2015/</a> , NCTS# 22185-16

## First-Second Quarters, 2016

	January 7, 2016	<b>20-Day ExoMars Launch Period Opens</b>
	March 4, 2016	<b>20-Day Insight Launch Window Opens</b>
	March 5-12, 2016 Big Sky, MT, USA	<b>IEEE Aerospace Conference</b> <a href="http://www.aeroconf.org/">http://www.aeroconf.org/</a> , NCTS# 22854-16
<b>New!</b>	March 21-25, 2016 The Woodlands, TX, USA	<b>Lunar and Planetary Science Conference (LPSC)</b> <a href="http://www.hou.usra.edu/meetings/lpsc2016/">http://www.hou.usra.edu/meetings/lpsc2016/</a>
	March 29-31, 2016 Washington DC, USA	<b>NRC's Committee on Astrobiology and Planetary Science (CAPS)</b>
	April 4-8, 2016 Oxford, UK	<b>International Venus Conference</b> <a href="http://venus2016.uk/">http://venus2016.uk/</a>
<b>New!</b>	May 24-25, 2016 Oxford, UK	<b>iCubeSat 2016, the 5th Interplanetary CubeSat Workshop</b> <a href="http://icubesat.org/">http://icubesat.org/</a>

## Seasons on Mars

	MY33	MY34	MY35
<b>Start of Northern Spring / L<sub>s</sub> 0</b>	6/18/2015	5/05/2017	3/23/2019
<b>Start of Northern Summer / L<sub>s</sub> 90</b>	1/03/2016	11/20/2017	10/08/2019
<b>Start of Northern Autumn / L<sub>s</sub> 180</b>	7/04/2016	5/22/2018	4/08/2020
<b>Start of Northern Winter / L<sub>s</sub> 270</b>	11/28/2016	10/16/2018	9/02/2020

### Third-Fourth Quarters, 2016

	July 30-August 7, 2016 Istanbul, TURKEY	<b>41st Scientific Assembly of the Committee on Space Research (COSPAR 2016) and Associated Events</b>
	August 7-12, 2016 Berlin, GERMANY	<b>Annual Meetings of the Meteoritical Society</b>
<b>New!</b>	September 5-9, 2016 Reykjavik, ICELAND	<b>6th International Conference on Mars Polar Science and Exploration</b>
	September 14-15, 2016 Irvine, CA, USA	<b>NRC's Committee on Astrobiology and Planetary Science (CAPS)</b>
	September 28, 2016	<b>Insight Arrival at Mars</b>
	October 16-21, 2016 Pasadena, CA, USA	<b>Joint DPS-EPSC Meeting</b>
	October 19, 2016	<b>ExoMars 2016 (TGO and EDM) Arrival at Mars</b>

### Special holidays to consider when scheduling conferences/workshops/meetings

Good Friday	4/3/2015	3/25/2016	4/14/2017	3/30/2018
Rosh Hashanah	9/14/2015	9/16/2016	9/20/2017	9/10/2018
Yom Kippur	9/23/2015	9/25/2016	9/29/2017	9/19/2018
(Note that Jewish holidays start at sundown the previous evening)				
Thanksgiving Day, Canada	10/12/2015	10/8/2016	10/9/2017	10/8/2018
Thanksgiving Day, U.S.	11/26/2015	11/22/2016	11/23/2017	11/22/2018
Christmas Day	12/25/2015	12/25/2016	12/25/2017	12/25/2018

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Please send your Mars Community Announcements and calendar items for inclusion in next month's newsletter to:

Meredith Cosby at

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All announcements listed in this newsletter will be posted on the MEPAG website, available at:

<http://mepag.jpl.nasa.gov>

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